

11/29/06
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NEWS 1	Web Page URLs for STN Seminar Schedule - N. America
NEWS 2	"Ask CAS" for self-help around the clock
NEWS 3 AUG 09	INSPEC enhanced with 1898-1968 archive
NEWS 4 AUG 28	ADISCTI Reloaded and Enhanced
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NEWS 7 SEP 21	CA/CAPplus fields enhanced with simultaneous left and right truncation
NEWS 8 SEP 25	CA(SM)/CAPplus(SM) display of CA Lexicon enhanced
NEWS 9 SEP 25	CAS REGISTRY(SM) no longer includes Concord 3D coordinates
NEWS 10 SEP 25	CAS REGISTRY(SM) updated with amino acid codes for pyrrolysine
NEWS 11 SEP 28	CEABA-VTB classification code fields reloaded with new classification scheme
NEWS 12 OCT 19	LOGOFF HOLD duration extended to 120 minutes
NEWS 13 OCT 19	E-mail format enhanced
NEWS 14 OCT 23	Option to turn off MARPAT highlighting enhancements available
NEWS 15 OCT 23	CAS Registry Number crossover limit increased to 300,000 in multiple databases
NEWS 16 OCT 23	The Derwent World Patents Index suite of databases on STN has been enhanced and reloaded
NEWS 17 OCT 30	CHEMLIST enhanced with new search and display field
NEWS 18 NOV 03	JAPIO enhanced with IPC 8 features and functionality
NEWS 19 NOV 10	CA/CAPplus F-Term thesaurus enhanced
NEWS 20 NOV 10	STN Express with Discover! free maintenance release Version 8.01c now available
NEWS 21 NOV 13	CA/CAPplus pre-1967 chemical substance index entries enhanced with preparation role
NEWS 22 NOV 20	CAS Registry Number crossover limit increased to 300,000 in additional databases
NEWS 23 NOV 20	CA/CAPplus to MARPAT accession number crossover limit increased to 50,000
NEWS 24 NOV 20	CA/CAPplus patent kind codes will be updated
NEWS EXPRESS	NOVEMBER 10 CURRENT WINDOWS VERSION IS V8.01c, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 25 SEPTEMBER 2006.
NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS LOGIN	Welcome Banner and News Items
NEWS IPC8	For general information regarding STN implementation of IPC 8
NEWS X25	X.25 communication option no longer available

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* * * * * STN Columbus * * * * *

FILE 'HOME' ENTERED AT 11:30:09 ON 29 NOV 2006

=> file reg

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

0.21

0.21

FILE 'REGISTRY' ENTERED AT 11:30:22 ON 29 NOV 2006

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STRUCTURE FILE UPDATES: 27 NOV 2006 HIGHEST RN 914071-04-8

DICTIONARY FILE UPDATES: 27 NOV 2006 HIGHEST RN 914071-04-8

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TSCA INFORMATION NOW CURRENT THROUGH June 30, 2006

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REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=> e phosphorodiamidite/cn

E1	1	PHOSPHORODIAMIDIMIDOTHIOIC ACID/CN
E2	1	PHOSPHORODIAMIDIMIDOTHIOIC ACID, N,N'-BIS(4-METHOXYPHENYL)-N
		'-(2,2,3-TRICHLORO-1-OXOPROPYL)-, 4-CHLOROPHENYL ESTER/CN
E3	0 -->	PHOSPHORODIAMIDITE/CN
E4	1	PHOSPHORODIAMIDO(DITHIOPEROXO)THIOIC ACID, TETRAETHYL-, ETHY
		L ESTER/CN
E5	1	PHOSPHORODIAMIDODISELENOIC ACID/CN
E6	1	PHOSPHORODIAMIDODISELENOIC ACID, ION(2-)/CN
E7	1	PHOSPHORODIAMIDODISELENOIC ACID, N,N'-BIS(1-METHYLPROPYL)-/C
		N
E8	1	PHOSPHORODIAMIDODISELENOIC ACID, N,N'-BIS(2-METHYLPROPYL)-/C
		N
E9	1	PHOSPHORODIAMIDODISELENOIC ACID, N,N'-BIS(2-METHYLPROPYL)-,
		COMP. WITH 2-METHYL-1-PROPANAMINE (2:1)/CN
E10	1	PHOSPHORODIAMIDODISELENOIC ACID, N,N'-DI-SEC-BUTYL-, COMP.
		WITH SEC-BUTYLAMINE (1:1)/CN
E11	1	PHOSPHORODIAMIDODISELENOIC ACID, N,N'-DI-SEC-BUTYL-, COMP.
		WITH SEC-BUTYLAMINE (2:1)/CN
E12	1	PHOSPHORODIAMIDODISELENOIC ACID, N,N'-DIBUTYL-/CN

=> file caplus

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

2.20

2.41

FILE 'CAPLUS' ENTERED AT 11:33:17 ON 29 NOV 2006

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FILE COVERS 1907 - 29 Nov 2006 VOL 145 ISS 23
FILE LAST UPDATED: 27 Nov 2006 (20061127/ED)

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<http://www.cas.org/infopolicy.html>

=> s phosphorodiamidite

76 PHOSPHORODIAMIDITE
37 PHOSPHORODIAMIDITES
L1 90 PHOSPHORODIAMIDITE
(PHOSPHORODIAMIDITE OR PHOSPHORODIAMIDITES)

=> s l1/prep

0 PHOSPHORODIAMIDITE/CT
3933759 PREP/RL
L2 0 (PHOSPHORODIAMIDITE/PREP)
(PHOSPHORODIAMIDITE/CT (L) PREP/RL)

=> s l1 and (phosphorus trichalide or phosphorus trichloride or phosphorus triboromide or phosphorus triiodide)

305627 PHOSPHORUS
1 PHOSPHORUSES
2 PHOSPHORI
8 PHOSPHORIS
305636 PHOSPHORUS
(PHOSPHORUS OR PHOSPHORUSES OR PHOSPHORI OR PHOSPHORIS)
0 TRICHALIDE
0 PHOSPHORUS TRICHALIDE
(PHOSPHORUS (W) TRICHALIDE)
305627 PHOSPHORUS
1 PHOSPHORUSES
2 PHOSPHORI
8 PHOSPHORIS
305636 PHOSPHORUS
(PHOSPHORUS OR PHOSPHORUSES OR PHOSPHORI OR PHOSPHORIS)
39627 TRICHLORIDE
1104 TRICHLORIDES
40248 TRICHLORIDE
(TRICHLORIDE OR TRICHLORIDES)
4231 PHOSPHORUS TRICHLORIDE
(PHOSPHORUS (W) TRICHLORIDE)
305627 PHOSPHORUS
1 PHOSPHORUSES
2 PHOSPHORI
8 PHOSPHORIS
305636 PHOSPHORUS
(PHOSPHORUS OR PHOSPHORUSES OR PHOSPHORI OR PHOSPHORIS)

0 TRIBOROMIDE
 0 PHOSPHORUS TRIBOROMIDE
 (PHOSPHORUS (W) TRIBOROMIDE)
 305627 PHOSPHORUS
 1 PHOSPHORUSES
 2 PHOSPHORI
 8 PHOSPHORIS
 305636 PHOSPHORUS
 (PHOSPHORUS OR PHOSPHORUSES OR PHOSPHORI OR PHOSPHORIS)
 4726 TRIIODIDE
 298 TRIIODIDES
 4841 TRIIODIDE
 (TRIIODIDE OR TRIIODIDES)
 86 PHOSPHORUS TRIIODIDE
 (PHOSPHORUS (W) TRIIODIDE)
 L3 6 L1 AND (PHOSPHORUS TRICHALIDE OR PHOSPHORUS TRICHLORIDE OR PHOSP
 HORUS TRIBOROMIDE OR PHOSPHORUS TRIIODIDE)

=> d 13 ibib ab 1-6

L3 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 2006:192529 CAPLUS
 DOCUMENT NUMBER: 144:432910
 TITLE: P-Hydrogen-Substituted 1,3,2-Diazaphosphenes:
 Molecular Hydrides
 AUTHOR(S): Burck, Sebastian; Gudat, Dietrich; Nieger, Martin; Du
 Mont, Wolf-Walther
 CORPORATE SOURCE: Institut fuer Anorganische Chemie, Universitaet
 Stuttgart, Stuttgart, 70550, Germany
 SOURCE: Journal of the American Chemical Society (2006),
 128(12), 3946-3955
 CODEN: JACSAT; ISSN: 0002-7863
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 144:432910
 AB P-Hydrogen-substituted 1H-2,3-dihydro-1,3,2-diazaphospholes were prepared by
 lithium reduction of diazadienes with subsequent protonation and cyclization
 with PCl₃; the diazaphosphenes reduce ketones to
 phosphorodiamidite esters of the corresponding secondary alcs.
 Reaction of R₁NHCH₂CH:NR₁ (6c-e), resulted from Li reduction of the diimines
 R₁N:CHCH:NR₁ with subsequent protonation, with PCl₃ in the presence of
 NEt₃ gave 2-chloro-1,3-R₁-2,3-dihydro-1H-1,3,2-diazaphospholes (3c-e)
 which were reduced by NaAlR₂H₂ (R = MeOCH₂CH₂) to the corresponding P-H
 derivs. (1a-c; R₁ = tBu, mesityl, 2,6-iPr₂C₆H₃). A unique hydride-type
 P-H reactivity of the new diazaphosphenes was documented by extensive
 reactivity studies. Aldehydes and ketones were readily reduced to
 diazaphospholene derivs. of the corresponding alcs., with
 alkyl-substituted ketones being converted at much lower rates than
 aldehydes or diaryl ketones. Reactions with the group 14 element
 tetrachlorides proceed via hydride/chloride metathesis to give either
 partially chlorinated derivs. EHnCl₄-n (n = 0-3 for E = C, Si) or HCl and
 2-phospholenium salts with ECl₃- anions (for E = Ge, Sn) which were
 characterized by spectroscopic and x-ray diffraction studies. Tin
 dichloride was readily reduced to the elemental tin. Reactions of 1c with
 the P-chloro-diazaphospholene 3c and the salt 1,3-di-tert-butyl-1,3-diaza-
 2-phospholenium triflate 16c[OTf] allowed the first exptl. detection of
 intermol. exchange of a hydride, rather than a proton, between phosphine
 derivs. Computational studies indicated that the hydride transfer between
 1c and the cation 16c involves a transient H-bridged species with bonding
 properties similar to those of B₂H₇⁻. The preference for the formation of
 these bridged intermediates over P-P bonded phosphonium-phosphine adducts
 is attributed to the low electrophilicity of the diazaphospholenium
 cations and characterizes a novel reaction mode for phosphonium ions.

REFERENCE COUNT: 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L3 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1993:254098 CAPLUS

DOCUMENT NUMBER: 118:254098

TITLE: A convenient synthesis of amides with 2-halo-2,3-dihydro-1,3,4,2-oxadiazaphospholes as new condensing agents

AUTHOR(S): Kimura, Hiroshi; Konno, Hodetoshi; Takahashi, Naomichi

CORPORATE SOURCE: Fac. Eng., Yamagata Univ., Yonezawa, 992, Japan

SOURCE: Bulletin of the Chemical Society of Japan (1993), 66(1), 327-9

CODEN: BCSJA8; ISSN: 0009-2673

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 118:254098

AB Various amides, including some with bulky substituents, are prepared in good yields from free caboxylic acids and amines under mild conditions by a one-step method using new condensing agents halodihydrooxadiazaphospholes I (R = H, Me, Et, X = Cl, Br). Phosphorodiamidites I (X = amino group) are formed initially.

L3 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1991:247640 CAPLUS

DOCUMENT NUMBER: 114:247640

TITLE: Synthesis of deoxydinucleoside phosphorodithioates

AUTHOR(S): Brill, Wolfgang K. D.; Nielsen, John; Caruthers, Marvin H.

CORPORATE SOURCE: Dep. Chem. Biochem., Univ. Colorado, Boulder, CO, 80309-0215, USA

SOURCE: Journal of the American Chemical Society (1991), 113(10), 3972-80

CODEN: JACSAT; ISSN: 0002-7863

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The synthesis of a new class of DNA analogs called phosphorodithioate DNA is described. This analog, which has a deoxynucleoside-OPS20-deoxynucleoside internucleotide linkage, is isosteric and isopolar with the normal phosphodiester, inert toward nucleases, and potentially useful for a large number of biochem. and biol. applications. Two methods are described for synthesizing this derivative. One route begins by condensing a deoxynucleoside phosphorodiamidite with a second appropriately protected deoxynucleoside to yield a deoxydinucleoside phosphoramidite. Sulfhydrolysis with H₂S generates the H-phosphonothioate, which upon oxidation with sulfur yields the deoxydinucleoside phosphorodithioate. Alternatively, sequential treatment of the deoxydinucleoside phosphoramidite with a mercaptan and sulfur yields the deoxydinucleoside phosphorodithioate triester. These deoxydinucleotides in protected form can then be used to introduce the dithioate internucleotide linkage into DNA. The second route for generating dithioate DNA uses deoxynucleoside phosphorothioamidities. Two derivs., the deoxynucleoside 3'-N,-N-dimethyl- or 3'-(N,N-tetramethylenephosphorothioamidite), were found to be especially attractive synthons as they could be prepared in stable form via a one-flask synthesis procedure and used to form the deoxydinucleoside thiophosphite rapidly (1-2 min with tetrazole as activator) in high yield. Subsequent oxidation with sulfur generates the completely protected phosphorodithioate linkage.

L3 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1988:75771 CAPLUS

DOCUMENT NUMBER: 108:75771

TITLE: Improved synthesis of 2-cyanoethyl N,N,N',N'-tetraisopropylphosphorodiamidite

(iPr₂N)₂POCH₂CH₂CN)
 AUTHOR(S): Nielsen, John; Dahl, Otto
 CORPORATE SOURCE: Dep. Gen. Org. Chem., Univ. Copenhagen, Copenhagen, DK-2100, Den.
 SOURCE: Nucleic Acids Research (1987), 15(8), 3626
 CODEN: NARHAD; ISSN: 0305-1048
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB PCl₃ was treated with HOCH₂CH₂CN in MeCN to give Cl₂POCH₂CH₂CN which was treated with (Me₂CH)₂NH to give, after vacuum distillation, 45% of the title compound (I) >99% pure. I is a useful alternative to Cl[(Me₂CH)₂N]POCH₂CH₂CN for the synthesis of nucleoside cyanoethyl N,N-diisopropylphosphoramidites.

L3 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1978:443956 CAPLUS
 DOCUMENT NUMBER: 89:43956
 TITLE: Cholesteryl phosphite and related compounds
 AUTHOR(S): Cremlyn, R. J. W.; Akhtar, N.; Khattak, I.
 CORPORATE SOURCE: Sch. Nat. Sci., Hatfield Polytech., Hatfield/Hertfordshire, UK
 SOURCE: Phosphorus and Sulfur and the Related Elements (1978), 4(2), 205-9
 CODEN: PREEDF; ISSN: 0308-664X
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Cholesterol (ROH, R = cholesteryl) was treated with PCl₃ to give 70% ROPCl₂, which was treated with 2 equivalent PhNH₂ to give ROPClNHPh (I). The hydrolysis of I gave ROP(O)HNHPh, whereas the condensation of I with morpholine and PhNHNH₂ gave ROPR₁NHPh (R₁ = morpholino) and ROP(NHPh)NHNHPh, resp. Treatment of ROPCl₂ with 4 equivalent PhNH₂ gave ROP(NHPh)₂. Treating ROPCl₂ with refluxing EtOH gave ROH, but reaction in EtOH at room temperature or in the presence of base gave ROH and ROP(Et)₂. Similarly, ROPCl₂ in boiling H₂O gave only ROH, but at room temperature ROP(O)HOH was also obtained.

L3 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN
 ACCESSION NUMBER: 1974:519849 CAPLUS
 DOCUMENT NUMBER: 81:119849
 TITLE: Novel and versatile synthetic reagent. Monoalkyl esters of tetraalkylphosphorodiamidous acid
 AUTHOR(S): Hargis, J. H.; Alley, W. D.
 CORPORATE SOURCE: Dep. Chem., Auburn Univ., Auburn, AL, USA
 SOURCE: Journal of the American Chemical Society (1974), 96(18), 5927-8
 CODEN: JACSAT; ISSN: 0002-7863
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Esters (Me₂N)₂POR (R = Me, PhCH₂) have been shown to react rapidly and in good yield with polyhalogenated hydrocarbons CCl₄, PhCCl₃, and CCl₃CO₂Et to give RCCl₃, RCCl₂Ph, and RCCl₂CO₂Et. A mechanism involving nucleophilic attack of P upon Cl is suggested.

=> file reg

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	41.57	43.98
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-4.50	-4.50

FILE 'REGISTRY' ENTERED AT 11:38:12 ON 29 NOV 2006

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DICTIONARY FILE UPDATES: 27 NOV 2006 HIGHEST RN 914071-04-8

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predicted properties as well as tags indicating availability of
experimental property data in the original document. For information
on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=> e 2-cyanothyl tetraisopropyl phosphorodiamidite/cn

E1	1	2-CYANOTHIOACETAMIDE/CN
E2	1	2-CYANOTHIOPHENE/CN
E3	0 -->	2-CYANOETHYL TETRAISOPROPYL PHOSPHORODIAMIDITE/CN
E4	1	2-CYANOTOLUENE/CN
E5	1	2-CYANOTROPONE/CN
E6	1	2-CYANOVALERALDEHYDE/CN
E7	1	2-CYANOVALERIC ACID/CN
E8	1	2-CYANOVINYL/CN
E9	1	2-CYANOXANTHENE/CN
E10	1	2-CYCLO OCTABENZENECARBOXYLIC ACID, 5,6,7,8,9,10-HEXAHYDRO-3 -HYDROXY-/CN
E11	1	2-CYCLO OCTEN-1-OL, 2-PHENYL-, ACETATE/CN
E12	1	2-CYCLO OCTEN-1-YLAMINE, N,N-DIMETHYL-, PICRATE/CN

=> e 2-cyanoethyl tetraisopropyl phosphorodiamidite/cn

E1	1	2-CYANOETHYL SULFIDE/CN
E2	1	2-CYANOETHYL TERT-BUTYL SULFIDE/CN
E3	0 -->	2-CYANOETHYL TETRAISOPROPYL PHOSPHORODIAMIDITE/CN
E4	1	2-CYANOETHYL TETRAISOPROPYLPHOSPHORODIAMIDITE/CN
E5	1	2-CYANOETHYL VINYL ETHER/CN
E6	1	2-CYANOETHYL VINYL KETONE/CN
E7	1	2-CYANOETHYL (2-CHLOROETHYL) AMINE/CN
E8	1	2-CYANOETHYL (3-HYDROXYPROPYL) METHYLSILANOL/CN
E9	1	2-CYANOETHYL- (2-ACETOXYETHYL) AMINE/CN
E10	1	2-CYANOETHYL-2-PHENYLCYCLOHEX-3-EN-1-ONE/CN
E11	1	2-CYANOETHYL-5-NORBORNENE-2-CARBOXALDEHYDE/CN
E12	1	2-CYANOETHYL-N,N,N1,N1-TETRAISOPROPYLPHOSPHORODIAMIDITE/CN

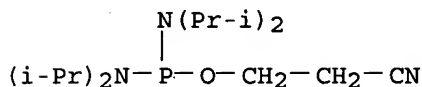
=> s 2-cyanoethyl tetraisopropyl phosphorodiamidite

	21138556	2
	38896	CYANOETHYL
	621	TETRAISOPROPYL
	187	PHOSPHORODIAMIDITE
L4	1	2-CYANOETHYL TETRAISOPROPYL PHOSPHORODIAMIDITE (2 (W) CYANOETHYL (W) TETRAISOPROPYL (W) PHOSPHORODIAMIDITE)

=> d l4

L4 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2006 ACS on STN

RN 102691-36-1 REGISTRY
 ED Entered STN: 14 Jun 1986
 CN Phosphorodiamidous acid, tetrakis(1-methylethyl)-, 2-cyanoethyl ester
 (9CI) (CA INDEX NAME)
 OTHER NAMES:
 CN β -Cyanoethyl N,N,N',N'-tetraisopropylphosphordiamidite
 CN β -Cyanoethyl-N,N,N',N'-tetraisopropylldiamidophosphite
 CN 2-Cyanoethoxybis(N,N-diisopropylamino)phosphine
 CN 2-Cyanoethyl N,N,N',N'-tetraisopropylphosphorodiamidite
 CN 2-Cyanoethyl tetraisopropylphosphorodiamidite
 CN 2-Cyanoethyl-N,N,N1,N1-tetraisopropylphosphorodiamidite
 CN Bis(diisopropylamino)(2-cyanoethoxy)phosphine
 CN Bis(diisopropylamino)-2-cyanoethoxyphosphane
 DR 864837-13-8
 MF C15 H32 N3 O P
 SR CA
 LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, CHEMCATS, CHEMINFORMRX,
 CSCHEM, MEDLINE, MSDS-OHS, SYNTHLINE, TOXCENTER, USPAT2, USPATFULL
 (*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

802 REFERENCES IN FILE CA (1907 TO DATE)
 804 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> file caplus

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	22.70	66.68
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	0.00	-4.50

FILE 'CAPLUS' ENTERED AT 11:40:50 ON 29 NOV 2006
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FILE COVERS 1907 - 29 Nov 2006 VOL 145 ISS 23
 FILE LAST UPDATED: 27 Nov 2006 (20061127/ED)

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```
=> s \102691-36-1
L5      804 \102691-36-1
        (102691-36-1)
```

```
=> s 102691-36-1
REGISTRY INITIATED
Substance data SEARCH and crossover from CAS REGISTRY in progress...
Use DISPLAY HITSTR (or FHITSTR) to directly view retrieved structures.
```

L7 804 L6

=> file caplus		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	2.41	72.40
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	0.00	-4.50

FILE 'CAPLUS' ENTERED AT 11:42:07 ON 29 NOV 2006
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```
=> s 17/prep
FIELD CODES CANNOT BE CHANGED HERE
You may have tried to apply a field code to a term that already has a
field code. You can only add a field code to a term that has no field
code appended to it.
```

=> s 17
L8 804 L6

```
=> s 18/prep
FIELD CODES CANNOT BE CHANGED HERE
```

You may have tried to apply a field code to a term that already has a field code. You can only add a field code to a term that has no field code appended to it.

=> s l8 and (phosphorus trichalide or phosphorus trichloride or phosphorus triboromide or phosphorus triiodide)

```
305627 PHOSPHORUS
  1 PHOSPHORUSES
  2 PHOSPHORI
  8 PHOSPHORIS
305636 PHOSPHORUS
  (PHOSPHORUS OR PHOSPHORUSES OR PHOSPHORI OR PHOSPHORIS)
  0 TRICHALIDE
  0 PHOSPHORUS TRICHALIDE
    (PHOSPHORUS (W) TRICHALIDE)
305627 PHOSPHORUS
  1 PHOSPHORUSES
  2 PHOSPHORI
  8 PHOSPHORIS
305636 PHOSPHORUS
  (PHOSPHORUS OR PHOSPHORUSES OR PHOSPHORI OR PHOSPHORIS)
39627 TRICHLORIDE
  1104 TRICHLORIDES
40248 TRICHLORIDE
  (TRICHLORIDE OR TRICHLORIDES)
4231 PHOSPHORUS TRICHLORIDE
  (PHOSPHORUS (W) TRICHLORIDE)
305627 PHOSPHORUS
  1 PHOSPHORUSES
  2 PHOSPHORI
  8 PHOSPHORIS
305636 PHOSPHORUS
  (PHOSPHORUS OR PHOSPHORUSES OR PHOSPHORI OR PHOSPHORIS)
  0 TRIBOROMIDE
  0 PHOSPHORUS TRIBOROMIDE
    (PHOSPHORUS (W) TRIBOROMIDE)
305627 PHOSPHORUS
  1 PHOSPHORUSES
  2 PHOSPHORI
  8 PHOSPHORIS
305636 PHOSPHORUS
  (PHOSPHORUS OR PHOSPHORUSES OR PHOSPHORI OR PHOSPHORIS)
4726 TRIIODIDE
298 TRIIODIDES
4841 TRIIODIDE
  (TRIIODIDE OR TRIIODIDES)
  86 PHOSPHORUS TRIIODIDE
    (PHOSPHORUS (W) TRIIODIDE)
L9      11 L8 AND (PHOSPHORUS TRICHALIDE OR PHOSPHORUS TRICHLORIDE OR PHOSP
        HORUS TRIBOROMIDE OR PHOSPHORUS TRIIODIDE)
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=> d his

(FILE 'HOME' ENTERED AT 11:30:09 ON 29 NOV 2006)

FILE 'REGISTRY' ENTERED AT 11:30:22 ON 29 NOV 2006
E PHOSPHORODIAMIDITE/CN

FILE 'CAPLUS' ENTERED AT 11:33:17 ON 29 NOV 2006

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L1      90 S PHOSPHORODIAMIDITE
L2      0 S L1/PREP
L3      6 S L1 AND (PHOSPHORUS TRICHALIDE OR PHOSPHORUS TRICHLORIDE OR PH
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FILE 'REGISTRY' ENTERED AT 11:38:12 ON 29 NOV 2006

E 2-CYANOETHYL TETRAISOPROPYL PHOSPHORODIAMIDITE/CN
E 2-CYANOETHYL TETRAISOPROPYL PHOSPHORODIAMIDITE/CN
L4 1 S 2-CYANOETHYL TETRAISOPROPYL PHOSPHORODIAMIDITE

FILE 'CAPLUS' ENTERED AT 11:40:50 ON 29 NOV 2006
L5 804 S \102691-36-1
S 102691-36-1/REG#

FILE 'REGISTRY' ENTERED AT 11:41:57 ON 29 NOV 2006
L6 1 S 102691-36-1/RN

FILE 'CAPLUS' ENTERED AT 11:41:57 ON 29 NOV 2006
L7 804 S L6

FILE 'CAPLUS' ENTERED AT 11:42:07 ON 29 NOV 2006
L8 804 S L7
L9 11 S L8 AND (PHOSPHORUS TRICALIDE OR PHOSPHORUS TRICHLORIDE OR PH

=> s l9 not l3
L10 10 L9 NOT L3

=> d l10 ibib ab 1-10

L10 ANSWER 1 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN
ACCESSION NUMBER: 2004:534215 CAPLUS
DOCUMENT NUMBER: 141:71721
TITLE: Process for the preparation of phosphitylation agents
INVENTOR(S): Hardy, Jonathan Mark; Dinizo, Stephan Edward
PATENT ASSIGNEE(S): Avecia Limited, UK
SOURCE: PCT Int. Appl., 11 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004055030	A1	20040701	WO 2003-GB5473	20031216
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2510473	AA	20040701	CA 2003-2510473	20031216
AU 2003288555	A1	20040709	AU 2003-288555	20031216
EP 1575965	A1	20050921	EP 2003-780393	20031216
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1726220	A	20060125	CN 2003-80106244	20031216
JP 2006509813	T2	20060323	JP 2004-559906	20031216
US 2006173187	A1	20060803	US 2006-539210	20060206
PRIORITY APPLN. INFO.:			US 2002-433788P	P 20021217
			WO 2003-GB5473	W 20031216

OTHER SOURCE(S): CASREACT 141:71721; MARPAT 141:71721
AB A process for the preparation of a compound of formula R1-Y1-P(NR2R3)2 is provided. The process comprises reacting a compound of formula PX3 with a compound of formula HNR2R3 to form a compound of formula X-P(NR2R3)2; and reacting the compound of formula X-P(NR2R3)2 with a compound of formula

R1-Y1-H in the presence of a hydrocarbon solvent to form the compound of formula R1-Y1-P(NR2R3)2. R1 represents a phosphorus protecting group; R2 and R3 each independently represent an alkyl, preferably a C1-6alkyl, group, or R2 and R3 are joined, together with the N to which they are attached, to form a 5-7 membered ring; Y1 represents O or S, preferably O; and X represents a halogen, preferably Cl. The preferred solvent is toluene. Thus, reaction of diisopropylamine with PCl3 in PhMe at 100-110 for 24 h. gave [(Me2CH)2N]2PCl which on treatment with HOCH2CH2CN in PhMe in the presence of Et3N gave title compound, [(Me2CH)2N]2POCH2CH2CN.

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 2 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 2003:1006992 CAPLUS

DOCUMENT NUMBER: 140:42305

TITLE: Process of preparation of phosphordiamidite compounds from 2-(cyanoethoxy)dichlorophosphine

INVENTOR(S): Shamblee, Dwight; Wo, Shiming; Wang, Bing

PATENT ASSIGNEE(S): Rhodia, Inc., USA

SOURCE: PCT Int. Appl., 16 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003106468	A1	20031224	WO 2003-US17982	20030609
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2487036	AA	20031224	CA 2003-2487036	20030609
US 2003236233	A1	20031225	US 2003-457177	20030609
US 7034177	B2	20060425		
AU 2003243432	A1	20031231	AU 2003-243432	20030609
EP 1539772	A1	20050615	EP 2003-760241	20030609
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1659173	A	20050824	CN 2003-813513	20030609
JP 2005529957	T2	20051006	JP 2004-513299	20030609
PRIORITY APPLN. INFO.:			US 2002-388224P	P 20020613
			WO 2003-US17982	W 20030609

OTHER SOURCE(S): CASREACT 140:42305; MARPAT 140:42305

AB A process of producing cyanoalkyl tetraalkylphosphordiamidites at least substantially free of amine hydrohalide with improved storage stability. Thus, reaction of 2-(cyanoethoxy)dichlorophosphine with diisopropylamine in THF followed by passing through alumina gave 88.5% pure 2-cyanoethyl-N,N,N',N'-tetraisopropylphosphorodiamidite.

REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 3 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1993:147630 CAPLUS

DOCUMENT NUMBER: 118:147630

TITLE: Research on chemical reagents for the syntheses of DNA fragment - preparation of 2-cyanoethyl

AUTHOR(S): bis(N,N-diisopropyl) phosphoramidite
 Yan, Rulian; Zhang, Siqian; Liu, Zhenyang; Sun,
 Shunneng; Zong, Jianchao; Yu, Yaoting
 CORPORATE SOURCE: Tianjin Res. Inst. Chem. Reagents, Tianjin, 300050,
 Peop. Rep. China
 SOURCE: Huaxue Shiji (1992), 14(4), 237-8
 CODEN: HUSHDR; ISSN: 0258-3283
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese
 OTHER SOURCE(S): CASREACT 118:147630
 AB Stirring 2-cyanoethanol with PCl₃ in MeCN gave 95% NCCH₂CH₂OPCl₂, which
 was treated with diisopropylamine in Et₂O to give 86% NCCH₂CH₂OP(NCHMe₂)₂.

L10 ANSWER 4 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1991:472155 CAPLUS
 DOCUMENT NUMBER: 115:72155
 TITLE: Nucleoside and polynucleotide thiophosphoramidite and
 phosphorodithioate compounds and processes
 INVENTOR(S): Caruthers, Marvin H.; Brill, Wolfgang; Nielsen, John;
 Yau, Eric; Ma, Yun Xi
 PATENT ASSIGNEE(S): University Patents, Inc., USA
 SOURCE: PCT Int. Appl., 87 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 5
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9104983	A1	19910418	WO 1990-US5653	19901004
W: AU, JP, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, IT, LU, NL, SE				
AU 9066036	A1	19910428	AU 1990-66036	19901004
PRIORITY APPLN. INFO.:			US 1989-417387	A2 19891005
			US 1990-488805	A2 19900303
			WO 1990-US5653	A 19901004

OTHER SOURCE(S): MARPAT 115:72155

AB Nucleoside thiophosphoramidites [I or II; B = (deoxy)nucleoside base; A =
 H, OH, halo, SH, NH₂, N₃, OR₂, SR₂, NHR₂; R₂ = heteroatom-(un)substituted
 blocking group; R₁ = blocking group; M = SR₅; X = NR₆R₇; R₅-R₇ =
 heteroatom-(un)substituted (cyclo)alkyl, aryl, aralkyl, cycloalkylalkyl,
 (cyclo)alkenyl, aralkenyl, (cyclo)alkynyl, aralkynyl; R₆R₇ = C≤5
 alkylene; NR₆R₇ = N-heterocyclyl containing ≥1 addnl. heteroatom
 selected from N, O, and S], useful for synthesizing mononucleotides and
 polynucleotides having phosphorodithioate, phosphorothioamidate,
 phosphorothiotriester, and phosphorothioate internucleotide linkages, are
 prepared. Thus, 2.5 mol (Me₂CH)₂NH was added slowly to a vigorously stirred
 and cooled (-18°) solution of 0.5 mol PCl₃ in THF and the reaction
 mixture refluxed for 12 h and, after removing (Me₂CH)₂NH.HCl, for addnl. 12
 h to give, after crystallization from hexane, [(Me₂CH)₂N]2PCl (III), as a
 colorless crystalline solid. p-ClC₆H₄CH₂SH (50 mmol) was treated with 50 mmol
 NaH in Et₂O with stirring and after 2 h 50 mmol III was added and the
 reaction mixture stirred at room temperature for 4 h to give, after recrystn.
 from MeCN, p-ClC₆H₄CH₂SP[N(CHMe₂)₂]₂ (IV). To a suspension of 5 mmol
 5'-O-(di-p-anisylphenylmethyl)thymidine and 6 mmol IV in MeCN was added 10
 mmol tetrazole and the reaction mixture was stirred at room temperature for 16
 h to give 80.1% I [B = 1-thyminy, A = H, R₁ = di-p-anisylphenylmethyl
 (DMT), M = SCH₂C₆H₄Cl-p, X = N(CHMe₂)₂]. This (0.2 mmol) was coupled with
 3'-O-acetylthymidine in DMF containing nitrophenyltetrazole and, after 15 min,
 quenched with 1 mmol S to give dinucleotide phosphorodithioate (V).

PATENT INFORMATION:

L10 ANSWER 6 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1989:497663 CAPLUS
DOCUMENT NUMBER: 111:97663
TITLE: Phosphoramidate analogs of dinucleotides: synthesis and proton assignment by two dimensional NMR spectroscopy (proton,proton-COSY)
AUTHOR(S): Mag, Matthias; Engels, Joachim W.
CORPORATE SOURCE: Inst. Org. Chem., Johann Wolfgang Goethe-Univ., Frankfurt, D-6000/50, Fed. Rep. Ger.
SOURCE: Nucleosides & Nucleotides (1988), 7(5-6), 725-8
CODEN: NUNUD5; ISSN: 0732-8311
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 111:97663

AB The synthesis of several dinucleoside phosphate derivs. (e.g., I, DMTr = dimethoxytrityl) which are linked by phosphoramidate bonds 3'-OP(O)NH-5' are described. One of these dimer units can be used in automated solid phase DNA synthesis by the phosphoramidite procedure. In order to study the conformational change which is induced on substituting O-P-O by O-P-N, fully deprotected I was also prepared. The constitution of the dimer units was confirmed by means of 2D-300MHz homonuclear chemical shift correlation spectroscopy (1H,1H-COSY).

L10 ANSWER 7 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1989:434935 CAPLUS
DOCUMENT NUMBER: 111:34935
TITLE: Thermodynamic comparison of the base pairs formed by the carcinogenic lesion O6-methylguanine with reference both to Watson-Crick pairs and to mismatched pairs
AUTHOR(S): Gaffney, Barbara L.; Jones, Roger A.
CORPORATE SOURCE: Dep. Chem., Rutgers, State Univ. New Jersey, Piscataway, NJ, 08855, USA
SOURCE: Biochemistry (1989), 28(14), 5881-9
CODEN: BICHAW; ISSN: 0006-2960
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A set of 10 non-self-complementary nonadeoxyribonucleoside octaphosphates, d(GGTTXTTGG) and d(CCAAYAACC), where X and Y are A, C, G, T, or O6-methylguanine (O6MeG), was synthesized by a large-scale, automated, phosphoramidite procedure. Purification was effected by reversed-phase HPLC, and the base composition was verified by anal. HPLC after enzymic degradation to

the constituent deoxynucleosides. This set of mols. was designed to allow evaluation of the nearest-neighbor dependence of each base pair. The thermal stability, expressed as Tmax, of each duplex containing one of the O6MeG base pairs, a Watson-Crick pair, or one of the mismatches possible with this set of mols. was determined over a concentration range of 5.7 to 200

μM.

From these data the ΔH° , ΔS° , and ΔG° of each combination were calculated. In general, the relative thermal stabilities observed for the O6MeG combinations confirm the previous findings that the most stable base pair is formed with cytosine rather than thymine and that all O6MeG pairs are much weaker than Watson-Crick base pairs. Moreover, the nine combinations containing O6MeG are all of similar thermal stability, cover a much smaller range in Tmax than do the mismatches, and show little sequence dependence.

L10 ANSWER 8 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1988:549798 CAPLUS
DOCUMENT NUMBER: 109:149798
TITLE: Cyanoethoxybis(dialkylamino)phosphines
INVENTOR(S): Tawara, Shinichiro; Goto, Kuniaki; Hayakawa, Yoshihiro
PATENT ASSIGNEE(S): Nippon Zeon Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.

CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62212394	A2	19870918	JP 1986-53306	19860311
PRIORITY APPLN. INFO.:			JP 1986-53306	19860311

AB NC(CH₂)₂OPXY (I; X, Y = secondary amino) are useful for synthesis of P-containing compds., e.g., nucleoside phosphoramidites. Thus, treating 1 equiv PCl₃ with 4 equiv Et₂NH at room temperature gave (Et₂N)₂PCl, 10 mmol of which was dissolved in 20 mL Et₂O and stirred with 10 mmol β-cyanoethanol and 10 mmol pyridine at room temperature to give 72 mol% I (X = Y = Et₂N).

L10 ANSWER 9 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1988:549797 CAPLUS
 DOCUMENT NUMBER: 109:149797
 TITLE: Phosphorodiamidous acid ester derivatives
 INVENTOR(S): Tawara, Shinichiro; Goto, Kuniaki; Hayakawa, Yoshihiro
 PATENT ASSIGNEE(S): Nippon Zeon Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62212395	A2	19870918	JP 1986-53305	19860311
PRIORITY APPLN. INFO.:			JP 1986-53305	19860311

AB R₃OP(NR₁R₂)₂ (I; R₁, R₂ = secondary or tertiary alkyl; NR₁R₂ may be a ring; R₃O = OH-derived protective group), useful in polynucleotide synthesis, are prepared by amination of PX₃ (X = halo) and treating the resultant XP(NR₁R₂)₂ with R₃OH. Thus, stirring 28.6 mmol PCl₃ with 114.4 mmol diisopropylamine in Et₂O at room temperature for 20 h gave 70% [(Me₂CH)₂N]₂PCl, 20 mmol of which was stirred with 20 mmol Et₃N and 20 mmol allyl alc. in Et₂O at room temperature for 15 h to give 47% I (R₁ = R₂ = Me₂CH, R₃ = allyl).

L10 ANSWER 10 OF 10 CAPLUS COPYRIGHT 2006 ACS on STN

ACCESSION NUMBER: 1987:407599 CAPLUS
 DOCUMENT NUMBER: 107:7599
 TITLE: A simple and effective chemical phosphorylation procedure for biomolecules
 AUTHOR(S): Bannwarth, Willi; Trzeciak, Arnold
 CORPORATE SOURCE: Cent. Res. Units, F. Hoffmann-La Roche Co., Ltd., Basel, CH-4002, Switz.
 SOURCE: Helvetica Chimica Acta (1987), 70(1), 175-86
 CODEN: HCACAV; ISSN: 0018-019X
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB A general chemical phosphorylation method based on P(III) reactions was developed. PCl₃ was treated with an alc. to give an alkoxydichlorophosphine which was treated with amines to give alkoxybis(dialkylamino)phosphines. These were then treated with an alc. to give dialkoxy(dialkylamino)phosphines which were used for the phosphorylation of oligonucleotides, peptides and amino acids.